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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,576	03/31/2000	Robert G. Field	SUN1P252/P4198	2536

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EXAMINER
KISS, ERIC B

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 October 2002_ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-18_ is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-18_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on _30 October 2002_ is: a)☒ approved b)☐ disapproved by the Examiner.

　If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a)☐ All b)☐ Some * c)☐ None of:

　　1.☐ Certified copies of the priority documents have been received.

　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _6_ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

1.   The amendment of October 30, 2002, has been received and entered. Claims 1-18 are

pending.

Drawings

2.   The proposed drawing corrections, filed on October 30, 2002, have been approved. A

proper drawing correction or corrected drawings are required in reply to the Office action to

avoid abandonment of the application. The correction to the drawings will not be held in

abeyance.

3.   The Patent and Trademark Office no longer makes drawing changes. See 1017 O.G. 4.

It is applicant's responsibility to ensure that the drawings are corrected. Corrections must be

made in accordance with the instructions below.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

a.   Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying
indicia, if provided, should include the title of the invention, inventor's name, and
application number, or docket number (if any) if an application number has not been
assigned to the application. If this information is provided, it must be placed on the front
of each sheet and centered within the top margin. If corrected drawings are required in a
Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE
MONTH** shortened statutory period set for reply in the "Notice of Allowability."
Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing
the corrected drawings after the mailing of a Notice of Allowability. The drawings
should be filed as a separate paper with a transmittal letter addressed to the Official
Draftsperson.

b.   Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.185(a). Failure to take corrective action within the set (or extended) period will result in **ABANDONMENT** of the application.

Response to Amendment

4.   Applicant's submitted substitute specification appropriately addresses all previously noted objections based on informalities. Accordingly, these objections are withdrawn in view of Applicant's amendment.

5.   Applicant's amendment to claims 8 and 18 overcomes the previously noted claim objections based on informalities. Accordingly, these objections are withdrawn in view of Applicant's amendment.

6.   Applicant's amendment to claims 4, 12, and 18 overcomes the previously noted rejections under 35 U.S.C. § 112, second paragraph. Accordingly, these rejections are withdrawn in view of Applicant's amendment.

Response to Arguments

7.   Applicant's arguments filed on October 30, 2002, have been fully considered but they are not persuasive.

a.   Applicant argues in the last two sentences on page 5 of the submitted Amendment A:

> As such, the "T[P]r[i]mitiveConnection" <u>object</u> cannot be considered a specification in the context of the relevant arts. Moreover, the "T[P]rimitiveConnection" described in *You et al.* does not teach or suggest inputting a formal specification into a code generator.

However, Applicant acknowledges that the "TPrimitiveConnection" object disclosed by You et al. defines a protocol for communication between a client and a server (see the first sentence on page 6 of Amendment A). It is the opinion of the Examiner that anything, object or otherwise, which <u>defines a protocol for communication</u> can be considered a "specification" in the context of the relevant arts. Furthermore, You et al. discloses TPrimitiveConnection as C++ source code defining an abstract base class (see column 52, line 30 through column 53, line 5). You et al. further discloses, "Communication between client and server are handled using TPrimitiveConnection objects" (see column 52, lines 8 and 9). This implies that the TPrimitiveConnection base class is used to generate TPrimitiveConnection objects. These objects are instances of the TPrimitiveConnection class or of a TPrimitiveConnection subclass (see column 52, lines 20-23). In either case, this inherently requires the parsing the TPrimitiveConnection class definition using a code generator in order to generate the corresponding code for the object instances of the class.

b.   Applicant further argues in lines 3-6 on page 6:

> *You et al.* does not teach inputting a formal specification into a code generator,
>
> which in turn parses the formal specification to generate a front-end debugger and
>
> a back-end debugger such that the front-end debugger and back-end debugger are
>
> compatible with each other.

However, You et al. discloses that the TPrimitiveConnection base class is used to

generate TPrimitiveConnection objects, as described above. These connection objects in turn

provide a front-end debugger (client) <u>portion</u> and a back-end debugger (server) <u>portion</u> (see

column 52, lines 8-19). You, et al. further discloses the front-end debugger <u>program</u> (client

debugger) and back-end debugger <u>program</u> (debugger server) being compatible with each other

(see Fig. 2, in which the client debugger is shown as interfacing with the debugger server).

c.   In light of the above arguments, the Examiner maintains that You et al. discloses

inputting a formal specification into a code generator, which in turn parses the formal

specification to generate a front-end debugger <u>portion</u> and back-end debugger <u>portion</u>, such that

the front-end debugger <u>program</u> and the back-end debugger <u>program</u> are compatible with each

other. Moreover, the Examiner maintains that "TPrimitiveConnection", as disclosed by You et

al. provides the formal specification. See the 35 USC § 102 and 35 USC § 103 rejection that

follows.

Claim Rejections - 35 USC § 102

8.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

9.   Claims 1-18 rejected under 35 U.S.C. 102(b) based upon a public use or sale of the

invention. This is evidenced by "JavaOne 1998 Presentation" (submitted in Information

Disclosure Statement filed October 30, 2002 and hereinafter Presentation), along with "Birds of

a Feather, '98 JavaOne conference schedule", (cited in previous office action and hereinafter

Schedule).

The cited presentation (given in a public forum on March 26, 1998; see Schedule, p. 34)

on its face (based on materials available to the Examiner) appears to have publicly disclosed the

present invention, including the JAVA PLATFORM DEBUGGER ARCHITECTURE (see

Schedule, p. 34 and Presentation, pages 13, 15, and 20), the JAVA DEBUG WIRE PROTOCOL

specification (see pages 1, 2, 4, and 13 of Presentation), the JAVA VIRTUAL MACHINE

DEBUG INTERFACE (see pages 1, 2, 5-9, 13-15, and 21 of Presentation), the front-end and

back-end debugger portions (see pages 2, 4, 7, 8, and 10-14 of Presentation), and the virtual

machine implementation (see pages 2-5, 7, 8, 10-14, and 21 of Presentation). Since the material

cited relates to a slide presentation by the Applicant, the Applicant is in the best position to

determine the specific nature of the public disclosure and clear up the record in this matter with

an appropriate response.

10.   Claims 1, 8, 12, 15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by

U.S. Patent No. 5,787,245 to You.

You teaches inputting a formal specification (TPrimitiveConnection; see column 52, lines

8-27) into a code generator (client debugger object) which in turn parses the formal specification

to generate a front-end debugger (client debugger object; see column 4, lines 28-37) portion

(connection object; see column 63, lines 25-28) and a back-end debugger (server debugger

object) portion (reverse connection object; see column 57, lines 35-41). A communication

protocol is enabled between the front-end debugger (client debugger object) and the back-end

debugger program (server debugger object), wherein the communication protocol is defined by

the formal specification (TPrimitiveConnection). You further discloses a computer readable

medium including computer program code (see column 80, lines 33-65) and a computer system

(see column 79, lines 13-55) for performing the aforementioned actions.

As per the additional limitations added to claims 1, 12, and 15 by Applicant's amendment, You further discloses further discloses the front-end debugger program (client debugger) and back-end debugger program (debugger server) being compatible with each other (see Fig. 2, in which the client debugger is shown as interfacing with the debugger server).

Claim Rejections - 35 USC § 103

11.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12.   Claims 2, 3, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over You as applied to claims 1 and 12, respectively, above.

As per claims 2 and 3, although You discloses with such a C++ object-oriented programming language implementation and fails to disclose a Java object-oriented programming language method, one having ordinary skill in the computer art would recognize that the You system can be implemented using a wide number of known object-oriented programming languages, including the Java programming language. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to utilize Java programming language code running on a virtual machine to implement the method of You. One would be motivated to do so in order to gain the platform independence that the Java programming language provides.

As per claim 9, although You fails to teach the use of a declarative language, one having ordinary skill in the computer art would recognize that a specification could be written in any programming language style, including such a known declarative language. One would be motivated to do so because a declarative language is rule-based and is best suited to implementing a specification that is also rule-based. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to write the formal specification of You in a declarative language because it is best-suited for such a purpose.

As per claim 13, although You discloses with such a C++ object-oriented programming language implementation and fails to disclose a Java object-oriented programming language method, one having ordinary skill in the computer art would recognize that the You system can be implemented using a wide number of known object-oriented programming languages, including the Java programming language. One would be motivated to do so in order to gain the platform independence that the Java programming language provides. Further, although You fails to teach the use of a declarative specification language, one having ordinary skill in the computer art would recognize that a specification could be written in any programming language style, including such a known declarative language. One would be motivated to do so because a declarative language is rule-based and is best suited to implementing a specification that is also rule-based. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to write the formal specification of You in a declarative language because it is best-suited for such a purpose and to utilize Java programming language code running on a virtual machine to implement the front-end of the You method to gain platform independence.

13.   Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over You as

applied to claim 1 above, and further in view of U.S. Patent No. 5,901,315 to Edwards.

You fails to teach the back-end debugger program, a portion of which comprising C

language code, directly controlling and communicating with a virtual machine. However,

Edwards teaches a back-end debugger program (debug engine, DE, and BE) comprising C

language code (see column 4, lines 35-38) that directly controls and communicates with a virtual

machine (see Figure 3). One having ordinary skill in the computer art would recognize that a

back-end debugger program could be written in any known programming language that allows

an interface to be established between a debuggee program and a debugger front-end. Further, a

virtual machine that is controlled by and communicates with the debugger back-end is

commonly used when the application being debugged comprises Java language code. It would

have been obvious to one having ordinary skill in the computer art at the time the invention was

made to implement the teachings of Edwards into the method of You in order to get the

advantage of being able to interface with and debug a Java language program. One would be

motivated to do so for debugging an application comprising Java language code using a non-Java

language user interface.

14.   Claims 6, 10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over You

as applied to claims 1, 8, and 13 above, and further in view of Field et al., "The New Java

Platform Debugger Architecture," contained in Birds of a Feather, '98 JavaOne conference

schedule (hereinafter Field et al.).

Although You discloses with such a protocol defined by a TPrimitiveConnection class, one having ordinary skill in the computer art would recognize that any known communication protocol could be used to implement You's method and system, including a Java Debug Wire Protocol as once taught by Field et al. as a communication protocol between a debugger and a debuggee. One would be motivated to use the Java Debug Wire Protocol because it allows for cross-platform remote debugging. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to incorporate the Java Debug Wire Protocol into the method and system of You to perform cross-platform debugging.

15.   Claims 7, 11, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over You as applied to claims 6, 8, and 15 above.

As per claims 7, 11, and 16, although You does not disclose a method of, or computer code for, generating HTML documentation of the protocol, one having ordinary skill in the computer art would recognize that the specific procedures and data packet formats necessary for sending and receiving data for a particular protocol are necessary in order to be able to implement such. One would be motivated to generate documentation of a communication protocol to provide human-readable protocol documentation information to software developers enabling them to implement the protocol. Further, HTML is a platform-independent document format, and one would be motivated to use HTML for the purpose of generating the documentation to allow it to be read on different platforms. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to incorporate the generation of HTML protocol documentation into the method and computer code

of You to allow software developers using various computer platforms to read and understand

the proper procedures involved in implementing the protocol.

As per claim 17, see rationale provided in item 14 above.

Conclusion

16.   Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with

the fee set forth in 37 CFR 1.17(p) on October 30, 2002, prompted the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

17.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Eric B. Kiss whose telephone number is (703) 305-7737. The

examiner can normally be reached on Tue. - Fri., 7:30 am - 5:00 pm. The examiner can also be

reached on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Gregory Morse can be reached on (703) 308-4789.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
Washington, DC 20231
Or faxed to:
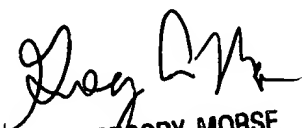(703) 746-7239 (for formal communications intended for entry)
Or:
(703) 746-7240 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive, Arlington, VA, 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-3900.

EBK /ɛɞ<
November 19, 2002

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100